

Patent Application of Tracy D. Witham for "Recumbent Quadrimanual Forward-Rowing Device" continued--Page 13

Claims: I claim:

a device for producing forward-facing rowing of a watercraft with direct arm-and-leg-tandem production of the rowing motion, comprising:

- (a) a thrust abutment and reclined back rest of sufficient strength to withstand backward force generated by rowing a watercraft when one powers oars through the stroke phase of a rowing motion by pushing against a handle-and-pedal assembly with arm-and-leg-tandem action simultaneously on each of two said handle-and-pedal assembly components,
- (b) said thrust abutment and reclined back rest and a seat located to the fore of said thrust abutment and reclined back rest being tilted backward sufficiently far to place a handle behind a pedal on each of two said handle-and-pedal assembly components to prevent said handle from extending beyond one's hand's reach when one's legs are extended against said pedal without thereby causing said handle to be positioned behind said thrust abutment and reclined back rest when one's legs are retracted and said pedals are pulled back,
- (c) said handle-and-pedal assembly components, to both starboard and port sides, being positioned relative to each other and to positions of all apparatus support structure components so that the trajectory of said handle-and-pedal assembly components when used to row said watercraft do not intersect at

Patent Application of Tracy D. Witham for "Recumbent Quadrimanual Forward-Rowing Device" continued--Page 14

any point with positions occupied by each other or by components of said apparatus support structure, and

- (d) a pair of connected pivotal axes to both the starboard side and the port side, one axis of each said pair of connected pivotal axes to be pivotal on a longitudinal line parallel with a line bisecting the device from fore to aft, and the second axis of each said pair of connected pivotal axes to be pivotal on a vertical line relative to the orientation of the device when said oars are extended directly to the sides relative to the orientation of the device, each said pair of connected pivotal axes replacing comparatively small pivotal axes found in standard oar locks with pivotal axes large enough to withstand the force generated by arm-and-leg-tandem action powering one's rowing motion and of preventing transverse torquing of the longitudinal and vertical axes during one's rowing motion due to arm-and-leg-tandem action,

whereby one can enjoy the benefit of rowing a watercraft in the direction one faces by simply pushing, rather than pulling, the oars through the stroke phase of the rowing motion, and

whereby one gains greater power for rowing a watercraft by using direct arm-and-leg-tandem production of the rowing motion.